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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): HILL ET AL.
Serial No.: 09/342,707
Filed: June 29, 1999
For: METHOD OF FABRICATING BRAGG GRATING USING A
SILICA PHASE GRATING MASK AND MASK USED BY
SAME
Group: 2874
Examiner: B. Healy

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DECLARATION OF PRIOR INVENTION IN THE UNITED STATES
UNDER 37 C.F.R. §1.131 TO OVERCOME CITED PATENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

I, Kenneth Hill, do hereby declare that:

1. I am a co-inventor of Reissue Application Serial No. 09/342,707, filed July 29, 1999.
2. I am also a co-inventor of U.S. Patent 5,104,209 (hereinafter Hill '209). Hill '209 has the same inventorship as Reissue Application Serial No. 09/342,707 and is commonly assigned to Her Majesty in Right of Canada as represented by the Minister of Communications.
3. In the Office Action dated March 21, 2000, it is stated that U.S. Patent 5,351,321 (hereinafter Snitzer '321) teaches a silica phase grating mask 24, 27, 28. However, in reviewing Snitzer '321, it is noted that although Snitzer '321 teaches that the fiber can be made of silica (e.g., column 1, line 12, et seq.), Snitzer '321 fails to disclose the use of a silica mask.

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4. Figures 15 and 16 of Snitzer '321 show a mask 28 with multiple slits exposed to light which is received from a source 25 to form a Bragg grating in an optical waveguide 12. The mask is placed adjacent and parallel to the optical waveguide 12.

5. Hill '209 also discloses a method of fabricating Bragg gratings in the interior of an optical waveguide by disposing a mask with multiple slits adjacent and parallel to a photosensitive optical waveguide and applying a single collimating light beam through the mask to the optical waveguide. For example, Figure 1 of Hill '209 clearly shows a mask 1 having a slit 2 placed over an optical fiber 3 to be adjacent and parallel to an optical waveguide (the optical fiber 3). As noted in column 4, lines 47-49 of Hill '209, the purpose of the illustrated structure is "for creating the index grating [that] can be used to fabricate Bragg reflectors in optical fibers". As also shown in Figure 1 and Figure 1A of Hill '209, a light beam 7 (which is described as an ultraviolet-light beam) impinges on the optical fiber through the slit 2 in the mask so as to form a grating line 8 in the core 9 of the fiber 3. As stated in column 4, lines 65-68, of Hill '209:

It should be noted that the invention is not restricted to a slit mask containing single slit. The mask could contain many slits.

As such, Hill '209 discloses the same subject matter disclosed in Snitzer '321 of placing a mask containing multiple slits adjacent to an optical fiber, and impinging ultraviolet light onto the fiber through the slits in the mask.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Executed this 30th day of May, 2000.

Kenn H. O. Hill
Kenneth Hill